

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 April 2005 (07.04.2005)

PCT

(10) International Publication Number
WO 2005/030801 A1

(51) International Patent Classification⁷: C07K 14/435, A61K 38/17

(21) International Application Number:
PCT/IB2004/003092

(22) International Filing Date:
23 September 2004 (23.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
789/CHE/2003 26 September 2003 (26.09.2003) IN

(71) Applicant (for all designated States except US):
NATIONAL CENTRE FOR BIOLOGICAL SCIENCES [IN/IN]; Tata Institute of Fundamental Research, UAS-GKVK Campus, PB No. 6501, Bangalore 560 065, Karnataka (IN).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KRISHNAN, Kozhalmannom, Subramaniasastry** [IN/IN]; National Centre for Biological Sciences, Tata Institute of Fundamental Research, UAS-GKVK Campus, PB No 6501, Bangalore 560 065, Karnataka (IN). **BALARAM, Padmanabhan** [IN/IN]; Division of Biological Sciences, Indian Institute of Science, Bangalore 560 012, Karnataka (IN).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A NOVEL CONOTOXIN MODULATING SODIUM CHANNELS

(57) Abstract: A 26 residue peptide (Am2766) with the sequence CKQAGESCDIFSQNCCVGTCAFIIE-NH₂ has been isolated and purified from the venom of the molluscivorous snail, *Conus amadis*, collected of the southeastern coast of India. Chemical modification and mass spectrometric studies establish that Am2766 has three disulfide bridges. Cterminal amidation has been demonstrated by mass measurements on the C-terminal fragments obtained by proteolysis. Sequence alignments establish that Am2766 belongs to the δ -conotoxin family. Am2766 inhibits the decay of the sodium current in brain rNav1.2a voltage-gated Na⁺ channel, stably expressed in Chinese hamster ovary (CHO) cells. Unlike δ -conotoxins have previously been isolated from molluscivorous snails, Am 2766 inhibits inactivation of mammalian sodium channel.



WO 2005/030801 A1